

REMARKS

Claims 1, 2, 5, 6, 8 and 9 are amended. Claims 1-9, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Office Action dated April 19, 2006, the Examiner rejected Claims 1- 3, 5, 6, 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Thielow et al (US 6,381,917) in view of Yoshikatsu et al (US 5,165,505).

Regarding Claims 1, 5 and 8, the Examiner stated that Thielow discloses a shaft door (1, Fig. 1) with a closing edge (14), wherein the door panel includes a front wall (2) and a back wall (3), which walls are spaced apart and connected together by thermally releasable means (Col. 1, Line 43); however, Thielow does not disclose a profile member fastened to the back wall of the door panel. The Examiner further stated that Yoshikatsu teaches a pair of door panels (Fig. 1) each having a profile member (28, Fig. 2 and 3) thermally non-detachably fastened (Col. 5, Lines 18 and 36, and Col. 7, Line 18) to the back wall and forming a rearward portion of the closing edge of the door panel as well as a portion of the front wall (region of 29, 21, 24A and 30, Fig. 3) forming a forward portion of the closing edge of the door panel. According to the Examiner, it would have been obvious to one of ordinary skill in the art to modify the invention of Thielow with the teaching of Yoshikatsu to afford the means of channeling smoke for its capture and ventilation, for the safety of occupants in a shaft.

Regarding Claim 2, the Examiner stated that Yoshikatsu teaches said profile member configured to form a rearward door gap with an adjacent closing edge of an opposite door panel (Fig. 3).

Regarding Claim 3, the Examiner stated that Yoshikatsu teaches a forward door gap and a rearward door gap having lateral positions different with respect to one another (Fig. 3).

Regarding Claim 6, the Examiner stated that Yoshikatsu teaches a forward door gap and a rearward door gap having positions different with respect to one another (Fig. 3). According to the Examiner, it would have been obvious to one of ordinary skill in the art to modify the invention of Thielow with the teaching of Yoshikatsu, as reviewed in Claims 2, 3 and 6, in

keeping with a means of channeling smoke for its capture and ventilation, for the purpose of occupant safety and isolating environments to facilitate recovery.

The Examiner rejected Claims 4 and 7 under 35 U.S.C. 103(a) as being unpatentable over Thielow in view of Yoshikatsu, and in further view of Pelvilain (US 5,293,962). The Examiner stated that the invention of Thielow lacks the door gaps of the instant invention and Yoshikatsu teaches a rearward and forward door gap, yet the door gaps extend parallel to one another. Furthermore, the Examiner admitted that Yoshikatsu is silent regarding a door gap crossing an axis of symmetry of the respective door panels. The Examiner stated that Pelvilain, however, teaches his door gaps (Fig. 2) of oblique orientation to one another and crossing the axis of symmetry of his door panels (29 and 24), to derive the feature of his "...second hollow space 32...", which "...serves as a chimney when the doors are closed." (Col. 3, Line 8). According to the Examiner, it would have been obvious to modify the invention of Thielow with the teaching of Yoshikatsu, as furthered by Pelvilain, to further the beneficial venting of smoke for the safety of occupants in the shaft.

With respect to Claim 9, the Examiner stated that although neither of the inventions of the aforementioned claims disclose a stationary door post for engagement of a single door panel, it would have been obvious to one of ordinary skill in the art "to provide said post of design to provide the desired ventilation effects of the teaching of Yoshikatsu et al teach as furthered by Pelvilain, in as much as the mating portions of the engaging members are operationally identical whether one or both of the engaging are slidably movable."

The Response:

The Examiner stated that acknowledgment is made of Applicants' claim for foreign priority based on an application filed in Switzerland on 2 July 2002, but noted, however, that Applicants have not filed a certified copy of the 01810640.1 application as required by 35 U.S.C. 119(b).

Applicants note that the correct filing date for EP 01810640.1 is July 2, 2001. The present application is a continuation of International Application PCT/CH02/00341 which claims priority from the EP application. The EP priority document was transmitted to the International Bureau of WIPO according to PCT rule 17.1(a) on July 17, 2002 on time. PCT Rule 17.2 (PCT)

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defines that no designated office shall ask the applicant himself to furnish it with a copy of the priority document. The International Bureau shall, at a specific request of the designated Office, furnish such a copy.

Applicants amended Claims 1, 5 and 8 to clarify that each profile member forms a rearward door gap with an adjacent closing edge (of another door panel or a door post) when the door is in a closed state whereby due to a heating the front walls curve and the back wall including the rearward portion of the closing door edge substantially retains the rearward door gap unchanged. Support for these amendments is found in Figs. 2 and 3 wherein the rearward door gap 10 is shown and at Lines 17-29 on Page 3 of the specification.

The Examiner rejected Claims 1- 3, 5, 6, 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Thielow Yoshikatsu.

Thielow shows an elevator shaft door panel 1 including a front wall 2 and a back wall 3, which walls are spaced apart and connected together by thermally releasable means 17, and profile members 13, 14 formed at side edges of the front wall 2.

Yoshikatsu shows a fire-preventing and smoke preventing elevator landing door. The door 5 is, as shown in Fig. 2, constructed as a thick structure comprised of multi layers formed of a main unit 14 of the door and a heat insulation panel 16 whereby the door is capable of attaining a considerable heat insulating effect. The main unit 14 is provided with a surface plate 6A, a vertical reinforcing material 7A, a back plate 9A and a heat insulating material 17A. A further heat insulating sheet 18 is placed between the surface plate 6A and the vertical reinforcing material 7A and the back plate 9A. The heat insulation panel 16 is fixed to the main unit 14 and the space between is filled with the heat insulation material 17A. A door stopping plate 28 is mounted on each of the facing edges of the main units 14. These door stopping plates 28 approach each other to be positioned side by side in proximity, with a clearance left between them when the door is closed caused by the door stopping rubber 30.

An expansive material 24A (Fig. 3) is interposed between the door stopping plate 28 and a decorated plate 21 on the right hand unit 14, and this expansive material 24A will expand with heat at the time of a fire to close the clearance between the decorated plate 21 on the right side and the door stopping plate 28, thereby preventing smoke accompanied with heat from flowing into the elevator shaft 8 through the clearance mentioned above. Further, a blind plate 31 is

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mounted on each back plate 9A, this blind plate 31 being formed with an approximately square pipe section, and is positioned on the side of the door stopping plate 28 facing the elevator shaft 8 so that it guides air, which will achieve a cooling effect, in the vertical direction.

Summarized, Yoshikatsu shows a multi layer shaft door with the key feature that a thermally expansive material 24 closes gaps in the event of fire and prevents smoke from flowing into the shaft. Combining Yoshikatsu with Thielow results in an elevator shaft door with closing edges containing thermally expansive material that seals a door against the passing of smoke in case of fire.

In contrast, Applicants' claimed invention relates to an elevator shaft door having a door panel with a closing edge and spaced apart front and back walls connected together by thermally releasable connecting means. A profile member is thermally non-detachably fastened to the back wall and forms a rearward portion of the closing edge of the door panel and a rearward door gap with an adjacent closing edge when the door is in a closed state. A portion of the front wall forms a forward portion of the closing edge of the door panel; whereby due to a heating in the event of fire the front wall curves and the back wall and thus also the rearward portion of the closing edge substantially retain the rearward door gap unchanged.

As explained above, Yoshikatsu combined with Thielow closes the gap in case of fire and a corresponding heating of the door using a thermally expansive material. There is no teaching in these references to retain the rearward door gap unchanged as recited in Applicants' claims.

With respect to Claims 4 and 7, the Examiner stated that Pelvilain teaches his door gaps (Fig. 2) of oblique orientation to one another and crossing the axis of symmetry of his door panels 29 and 24. Pelvilain shows a door framework 23 having a door box 24 on the lobby side spaced from insulating plates 29 on the shaft side. Positioned between the box 24 and the plates 29 are alternating heat insulating spaces 25 and heat insulating mats 26. The door box 24 forms two leaves that have facing edges with a gap therebetween (Fig. 2). An obliquely extending portion of the gap is located between a hollow space 32 and a seal near the plates 29.

Claims 4 and 7 define the rearward door gap as extending obliquely relative to the forward door gap and crosses an axis of symmetry of the door panel and the opposite door panel. The gap shown in Pelvilain is not a rearward door gap, nor does it cross the axis of symmetry of the door leaves.

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In view of the amendments to the claims and the above arguments, Applicants believe that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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